

## REMARKS

Following entry of the above amendment claims 1, 4, 11-15, 17, 20-22, 24-26, 31, 33, 34, 37, 38, 40-44 are pending. Claims 2-3, 5-10, 16, 18-19, 23, 27-30, 32, 35-36, 39 have been canceled. Claims 17, 20-22, 24-26, 31, 33, 34, 37, 38, 40, 42, 43, 44 are withdrawn as being drawn to non-elected subject matter. Applicants amend claims 1 and 42 to focus on particular embodiments of the invention and to correct obvious errors. Support for the amendment is found in the specification as originally filed. See, for example, the claims as originally filed.

The Office Action states that claim 42 “recites the limitation ‘the fatty acid oxidizing enzyme’ in claim 14” and further states that there is insufficient antecedent basis for the limitation. Applicants assume that the Office is rejecting claim 42 under 35 USC §112, second paragraph. In response, Applicants amend claim 42 to depend from claim 38. Claim 42 improperly depended from claim 14. Claim 42 should have depended from claim 38. See, for example, claim 38 as originally filed. Claim 38 is withdrawn as being drawn to non-elected subject matter. Claim 42, as amended, properly depends from withdrawn claim 38. Therefore, Applicants withdraw claim 42 as being drawn to non-elected subject matter. In light of the amendment, Applicants respectfully request reconsideration and withdrawal of the rejection.

The Office Action states that claims 1, 4, 8, 11-15, 41 and 42 are rejected under 35 USC §102(e) as being anticipated by Grichko (2004/0253696). Applicants respectfully traverse the rejection. However, in order to further prosecution, Applicants have canceled claim 8 and amend claim 1.

As stated in MPEP §2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference” citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). With respect to ranges, MPEP §2131.03(II) states that a prior art reference that teaches a range overlapping or touching the claimed range anticipates if the prior art range discloses the claimed range with “sufficient specificity.” Also, when the prior art discloses a range which touches or overlaps the claimed range, but no specific examples falling within the claimed range are disclosed, a case by case determination must be made as to anticipation and what constitutes a “sufficient specificity” is fact dependent. The Office Action states that Grichko teaches a liquefaction process that is carried out as a multi-step process within the temperature ranges of 80-105°C then 65-95°C and finally between 40-75°C. Applicants respectfully note that the Examiner has mischaracterized the teachings of Grichko. For example, Grichko teaches a process of liquefaction comprising multiple stages wherein the slurry is heated to between 60-95°C and the enzymes are added to initiate liquefaction. The

slurry is then jet-cooked at a temperature between 95-140°C and then cooled to 60-95°C and more enzymes are added. See, for example, page 9 at paragraph 0111. The teachings of Grichko do not anticipate the Applicants invention as claimed. *Inter alia*, Grichko does not teach the specific temperature ranges with sufficient specificity as required by MPEP§2131.03(II). In light of the amendment and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection.

The Office Action states that claims 1, 4, 8, 12, 13, and 41 are rejected under 35 USC §102(b) as being anticipated by each of Viet et al. (WO 02/38787 A2) and Olsen et al. (WO 02/074895 A2). Applicants respectfully traverse the rejection. However, in order to further prosecution, Applicants have canceled claim 8 and amend claim 1.

As stated in MPEP §2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). With respect to ranges, MPEP §2131.03(II) states that a prior art reference that teaches a range overlapping or touching the claimed range anticipates if the prior art range discloses the claimed range with "sufficient specificity." Also, when the prior art discloses a range which touches or overlaps the claimed range, but no specific examples falling within the claimed range are disclosed, a case by case determination must be made as to anticipation and what constitutes a "sufficient specificity" is fact dependent. The Office Action states that Veit and Olsen teach a liquefaction process to be carried out as a multi-step process within the temperature ranges of 80-105°C then 65-95°C and finally between 40-75°C. Applicants respectfully note that the Examiner has mischaracterized the teachings of Veit and Olsen. For example, Veit et al. teach a liquefaction process wherein the slurry is heated to between 60-95°C, preferably 80-85°C and the enzymes are added to initiate liquefaction. The slurry is then jet-cooked at a temperature between 95-140°C and then cooled to 60-95°C and more enzymes are added. See, for example, Veit et al. page 5 lines 4-34. Olsen et al. also teaches a liquefaction process wherein the slurry is heated to between 60-95°C, preferably 80-85°C and the enzymes are added to initiate liquefaction. The slurry is then jet-cooked at a temperature between 95-140°C and then cooled to 60-95°C and more enzymes are added. See, for example, Olsen et al. page 5 lines 1-6. Neither Veit et al. nor Olsen et al. teach a liquefaction process to be carried out as a multi-step process within the temperature ranges of 80-105°C then 65-95°C and finally between 40-75°C. Since neither Veit et al. nor Olsen et al. teach the specific temperature ranges with sufficient specificity as required by MPEP§2131.03(II), neither Veit et al. nor Olsen et al. anticipate Applicants invention as claimed.

In light of the amendment and above remarks, Applicants respectfully request reconsideration and withdrawal of the rejections.

The Office Action states that claims 1, 4, 8, 11-15, 41, and 42 are rejected under 35 USC §103(a) and being obvious over the combination of each of Viet et al. (WO 02/38787 A2) and Olsen et al. (WO 02/074895 A2) in light of Grichko (20040253696). Applicants respectfully traverse the rejection.

Applicants respectfully note that Grichko (20040253696) qualifies as prior art only under 102(e) and is subject to an obligation of assignment to the same assignee as the instant application. Therefore, Grichko (20040253696) does not qualify as prior art under 35 USC §103(a) because it is excluded under 35 USC §103(c). Consequently, Applicants respond to the Examiner's rejection under 35 USC §103(a) only with respect to Veit et al. (WO 02/38787 A2) and Olsen et al. (WO 02/074895 A2).

MPEP§2142 provides that the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. Further, MPEP §2142 provides that the key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_\_, \_\_\_, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at \_\_\_, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

The Office Action states that Veit and Olsen teach a process for liquefying starch-containing material comprising treating with at least one alpha-amylase and a maltogenic amylase wherein the starch containing material has been reduced in size by milling. The Office Action further states that Viet and Olsen teach a liquefaction process to be carried out as a multi-step process within the temperature ranges of 80-105°C then 65-95°C and finally between 40-75°C. As stated above, the Examiner has mischaracterized the teachings of Veit and Olsen with respect to the temperature ranges in which liquefaction is carried out. The temperature ranges taught in Veit and Olsen do not encompass the temperature ranges of the Applicants invention as claimed. Also, neither Veit nor Olsen provide any reason or motivation to one skilled in the art to alter the temperatures of the various stages of liquefaction taught in Veit or Olsen to arrive at the temperature ranges of the various stages of liquefaction in the Applicants

invention as claimed. Furthermore, the Examiner has failed to provide any reasoning as to why Applicants invention would be obvious to one skilled in the art and the Examiner's finding of obviousness is merely conclusory.

The Office Action also states that Veit and Olsen do not teach using an esterase and a fatty acid oxidizing enzyme and the Examiner relies on Grichko to overcome this deficiency. As stated above, Grichko is not available as prior art to the instant application under 103(a) because it is excluded under 35 USC §103(c). Therefore, the deficiencies of Veit and Olsen that the Examiner has conceded to cannot be overcome by Grichko, and the rejection under 35 USC §103(a) cannot be sustained.

For the aforementioned reasons, Applicants submit that the instant invention as claimed is not obvious in light of the prior art as cited and Applicants respectfully request reconsideration and withdrawal of the rejection.

The Office Action states that claims 1, 4, 11, 12, 14, 15, and 42 are provisionally rejected on the ground of non-statutory obviousness-type double patenting (ODP) as being unpatentable over claims 1, 2, 5-8, and 15-17 of copending Application No. 10/459315. Applicants respectfully note that Application No. 10/459315 is an abandoned application. Applicants believe perhaps the Examiner meant to reject claims 1, 4, 11, 12, 14, 15, and 42 over one or more of claims 19-22 and 24-33 of co-pending Application No. 11/299163, a pending child application of Application No. 10/459315. However, Applicants respectfully traverse the rejection.

As provided in MPEP§804(II)(B)(1), a double patenting rejection of the obviousness-type is "analogous to [a failure to meet] the nonobviousness requirement of 35 USC 103" except that the patent principally underlying the double patenting rejection is not considered prior art. *In re Braithwaite*, 379 F.2d 594, 154 USPQ 29 (CCPA 1967). Therefore, the analysis employed in an obviousness-type double patenting rejection parallels the guidelines for analysis of a 35 USC 103 obviousness determination. *In re Braat*, 937 F.2d 589, 19 USPQ2d 1289 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Applicants respectfully note that the Examiner has failed to establish the basis for an ODP rejection since the Examiner has not employed the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 USC 103. Rather, the Examiner simply concludes that the claims are "not identical, [but] they are not patentably distinct from each other because both sets of claims overlap in scope."

The Office Action states that "[b]oth sets of claims are drawn to a process involving liquefaction comprising an amylase, esterase, and a fatty acid oxidizing enzyme." Applicants

respectfully disagree. The pending claims of Application No. 11/299163 are drawn to a process for producing ethanol in a fermentation medium which process comprises a fermentation step with a microorganism, comprising subjecting the fermentation medium to at least one fatty acid oxidizing enzyme. Applicants instant invention is drawn to a process for liquefying starch-containing material comprising treating said starch-containing material with at least one alpha-amylase and a maltogenic amylase, wherein the liquefaction is carried out in three stages, comprising a first stage at a temperature in the range from 80 to 105°C, a second stage at a temperature in the range between 65 to 95°C, and a third stage at a temperature between 40-75°C. Applicants submit that the invention as claimed in the instant application is not an obvious variation of any of the claims in the co-pending applications cited by the Examiner. Further, Applicants believe that should the Examiner make the proper factual inquiries regarding Applicants' invention as claimed and the co-pending applications, the Examiner will also conclude that the invention as claimed in the instant application is not an obvious variation of any of the claims in the co-pending application cited in the ODP rejection. In light of the remarks above, Applicants respectfully request reconsideration and withdrawal of the ODP rejection.

Applicants believe the present claims are in condition for allowance and such action is respectfully requested. Applicants believe that no other fees are due in connection with the filing of this paper other than those specifically authorized herewith.

Should any other fees be deemed necessary to effect the timely filing of this paper, the Commissioner is hereby authorized to charge such fees to Deposit Account No. 50-1701.

If the Examiner has any outstanding issues with the pending claims, the Examiner is encouraged to telephone the undersigned for expeditious handling.

Respectfully submitted,

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